AMENDMENT TO THE CLAIMS

IN THE CLAIMS:

Claims 1-17 are currently pending in this application. Please amend claim 9 as follows. A copy of all pending claims and a status of the claims is provided below.

1. (Original) A detecting method for detecting a position of an image, comprising:

a) forming an image on a medium, the image having a leading edge facing a transport direction and a tailing edge opposite to the leading edge;

b) detecting the image on the medium using a detecting unit while transporting the medium in the transport direction relative to the detecting unit, the detecting unit outputting a detection signal, wherein the detection signal has a first portion corresponding to the leading edge of the image and a second portion corresponding to the tailing edge of the image; and

c) detecting a position of the image based only on the first portion of the detection signal.

2. (Original) The detecting method according to claim 1, wherein: the first detecting unit includes a first detector and a second detector aligned in the conveying direction; in the step b), the first detector outputs a first detection signal, and the second detector outputs a second detection signal at a timing differing from an output timing of the first detection signal, wherein a first waveform of the first detection signal has a first portion corresponding to the leading edge of the image and a second portion corresponding to the tailing edge, and a second waveform of the second detection signal has a third portion corresponding to the leading edge of the image and a fourth portion corresponding to the tailing edge; and the step c) includes crossing the first portion of the first waveform and the third portion of the second waveform; and detecting the position of the image based on a position at which the first portion crosses the third portion.

3. (Original) The detecting method according to claim 1, wherein in the step b) the detecting unit outputs a first detection signal and a second detection signal at different timings, and the step c) includes reversing the first detection signal front-to-back,

superimposing the reversed first detection signal on the second detection signal, thereby obtaining a superimposed waveform, and detecting the position of the image based on the superimposed waveform.

4. (Original) The detecting method according to claim 1, wherein in the step b) the detecting unit outputs a first detection signal and a second detection signal at different timings, and the step c) includes inverting the first detection signal top-to-bottom, superimposing the inverted first detection signal on the second detection signal, thereby obtaining a superimposed waveform, and detecting the position of the image based on the superimposed waveform.

5. (Original) The detecting method according to claim 1, wherein in the step b) the detecting unit outputs a first detection signal and a second detection signal at different timings, and the step c) includes delaying and reversing the first detection signal front-to-back, delaying the second detection, superimposing the delayed and reversed first detection signal on the delayed second detection signal, thereby obtaining a superimposed waveform, and detecting the position of the image based on the superimposed waveform.

6. (Original) The detecting method according to claim 1, wherein in the step b) the detecting unit outputs a first detection signal and a second detection signal at different timings, and the step c) includes delaying the first detection signal, inverting the second detection signal top-to-bottom, superimposing the delayed first detection signal on the inverted second detection signal, thereby obtaining a superimposed waveform, and detecting the position of the image based on the superimposed waveform.

7. (Original) The detecting method according to claim 6, wherein in the step of inverting the second detection signal, the second detection signal is inverted by subtracting a waveform of the second detection signal from a predetermined voltage value.

8. (Original) An electrophotographic recording device that forms multicolor images by superimposing a plurality of images in each of a plurality of colors one on the other, the

electrophotographic recording device comprising:

a conveying unit that conveys a medium in a conveying direction;

an image forming unit that forms a predetermined test image on the medium;

a first detecting unit that detects the predetermined test image on the medium, the first detecting unit outputting a detection signal; and

a second detecting unit that detects a position of the predetermined test image on the medium based on the detection signal from the first detecting unit, wherein

the predetermined test image has a leading edge facing the conveying direction and a tailing edge opposite to the leading edge;

the detection signal includes a first portion corresponding to the leading edge and a second portion corresponding to the tailing edge; and

the second detecting unit detects the position of the predetermined test image based only on the first portion of the detection signal.

9. (Currently amended) The electrophotographic recording device according to claim [[4]]9, wherein the medium is a transfer belt that conveys a recording medium.

10. (Original) The electrophotographic recording device according to claim 8, wherein:

the first detecting unit includes a first detector and a second detector aligned in the conveying direction, the first detector detecting the predetermined test image and outputting a first detection signal, the second detector detecting the predetermined test image and outputting a second detection signal at a timing differing from an output timing of the first detection signal;

a first waveform of the first detection signal has a first portion corresponding to the leading edge of the predetermined test image and a second portion corresponding to the tailing edge, and a second waveform of the second detection signal has a third portion corresponding to the leading edge of the predetermined test image and a fourth portion corresponding to the tailing edge;

the second detecting unit crosses the first portion of the first waveform and the third portion of the second waveform and detects the position of the predetermined test image

based on a position at which the first portion crosses the third portion.

11. (Original) The electrophotographic recording device according to claim 8, wherein the first detecting unit includes a first detector and a second detector aligned in the conveying direction, the first detector detecting the predetermined test image and outputting a first detection signal, the second detector detecting the predetermined test image and outputting a second detection signal at a timing differing from an output timing of the first detection signal; and

the second detecting unit reverses the first detection signal front-to-back, superimposes the reversed first detection signal on the second detection signal, thereby obtaining a superimposed waveform, and detects the position of the predetermined test image based on the superimposed waveform.

12. (Original) The electrophotographic recording device according to claim 8, wherein the first detecting unit includes a first detector and a second detector aligned in the conveying direction, the first detector detecting the predetermined test image and outputting a first detection signal, the second detector detecting the predetermined test image and outputting a second detection signal at a timing differing from an output timing of the first detection signal; and

the second detecting unit inverts the first detection signal top-to-bottom, superimposes the inverted first detection signal on the second detection signal, thereby obtaining a superimposed waveform, and detects the position of the predetermined test image based on the superimposed waveform.

13. (Original) The electrophotographic recording device according to claim 8, wherein the first detecting unit includes a first detector and a second detector aligned in the conveying direction, the first detector detecting the predetermined test image and outputting a first detection signal, the second detector detecting the predetermined test image and outputting a second detection signal at a timing differing from an output timing of the first detection signal; and

the second detecting unit delays and reverses the first detection signal front-to-back,

delays the second detection signal, superimposes the delayed and reversed first detection signal on the delayed second detection signal, thereby obtaining a superimposed waveform, and detects the position of the image based on the superimposed waveform.

14. (Original) The electrophotographic recording device according to claim 8, wherein the first detecting unit includes a first detector and a second detector aligned in the conveying direction, the first detector detecting the predetermined test image and outputting a first detection signal, the second detector detecting the predetermined test image and outputting a second detection signal at a timing differing from an output timing of the first detection signal; and

the second detecting unit delays the first detection signal, inverts the second detection signal top-to-bottom, superimposes the delayed first detection signal on the inverted second detection signal, thereby obtaining a superimposed waveform, and detects the position of the image based on the superimposed waveform.

15. (Original) The electrophotographic recording device according to claim 8, wherein the first detection unit includes at least one sensor having a detection range that is smaller than a width of the predetermined test image with respect to the conveying direction.

16. (Original) The electrophotographic recording device according to claim 15, wherein the predetermined test image is in chevron shape having a leading edge facing the conveying direction, and the sensor is arranged in a direction not parallel to a direction of the leading edge of the predetermined test image.

17. (Original) The electrophotographic recording device according to claim 8, wherein the image forming unit includes a plurality of image forming devices each corresponding to one of the plurality of colors, and the predetermined test image includes a plurality of images in each of the plurality of colors.